

# PATENT SPECIFICATION



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## PROVISIONAL SPECIFICATION

### Improved Support for Fire Hose

I, FREDERICK WILLIAM BURT, of "St. Johns", Avon Road, Devizes, Wiltshire, a British Subject, by Birth, do hereby declare the nature of this invention to be 5 as follows:—

#### PRINCIPLE EMPLOYED.

To use the water reaction pressure, plus the weight of the device itself, to give a grip on the ground, through a frame, by 10 means of one prong and two feet; reducing the effort of the branchman only to that necessary to direct the jet, and flex the hose to the angle of such jet, in respect of elevation, and slightly twist 15 the hose to the angle of such jet in respect to any lateral requirement, all by means of a "joy-stick" operating handle.

#### PURPOSES OF THE DEVICE.

To allow a substantial jet to be delivered 20 at any required set angle, within the range of the device, from a position rendered untenable to branchmen; or to allow one man control of movement, and generally to reduce the number of branch- 25 men, and the danger and fatigue attendant on their work.

#### CONSTRUCTION.

The device consists of four main parts, namely; a T-shaped ground frame; a 30 branch holder assembly; a reversible control handle; and an arrangement to remotely release the ground prong grip.

The T-ground frame is of weldable steel tube of suitable strength. The cross tube, 35 of this T is in one length, hinged to the centre tube, so that, when the device is folded, approximately one half of it is parallel to the centre tube and on the right side of the latter as seen from the rear, 40 the other part then extending in line with first part beyond the front of the centre tube. A pin is provided to stop any hinge movement when the device is in use. The cross tube, each side of hinge, is bent 45 downwards and on its ends are small ground plates, fitted with wood or rubber feet, the bend being sufficient for good ground clearance only. About  $\frac{2}{3}$  the length of the centre tube, as measured 50 from its front, is a fixed collar, and at about this point, the tube is bent sufficient to allow the front  $\frac{2}{3}$  to be parallel to the ground, assuming the frame to be in work-

ing position; the rear  $\frac{1}{3}$ , then sloping down to back ground plate, below which 55 is a permanent prong. This rear plate has a hole drilled through it beyond the end of the centre tube welded to it, and on the tube above this plate is a U-hose guide. In front of these rear attach- 60 ments, extending from the left side of the tube, is a bolt which carries the arrangement which enables the prong grip to be released. On the tube, between this bolt and the collar, previously mentioned, is a 65 long plate, dished in its width, in which the hose can slide during the higher varying elevation angles of the jet.

The branch holder assembly consists of a tube which is a working fit on the  $\frac{2}{3}$  of 70 centre tube of ground frame, and the length of which is equal to the space between the collar and hinge, both previously mentioned; a branch holder arm hinged to the rear end of this tube; also 75 arrangements to control movements of this tube and the holder arm, to lock each where required; and a socket into which the control handle can fit. An extension on the right side, at the front end 80 of the tube engages between the ground frame hinge plates, limiting lateral movement. A handled locking bolt at the right side of tube locks same in any required position, within its limits of 85 movement; the handle, when free, falling into a support at the side of holder arm hinge. The holder arm, above its hinge, has, on its left side, an extension, which moves on, or can be 90 locked on slide bars, allowing variable or a set elevation angle. This extension is continued backwards and turned at its end and on this part is the socket to accommodate the operating handle; this 95 socket, as seen from above, being in line with the hose. Above this extension from the holder arm, and on the arm, is a curved strap rivet plate, above again are extensions each side to take the lugs of 100 the female coupling, and finally, at the top end, is a curved support piece into which the branch fits. The slide bars, which drop into a support guide at left side of arm hinge when device is folded, 105 are attached to the left front side of the

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tube, so that the necessary movement is possible, and are sufficiently out of centre to clear hose and any fittings necessary.

The operating handle is of tube, and is bent a suitable number of degrees out of true near the end which fits into the socket mentioned, so that suitable handle positions for "high jet" or "low jet" can be obtained; and is held in place by a suitable pin.

The arrangement to release the prong grip fits on the bolt previously mentioned and consists of a flat piece of steel, cut, as seen from the left side, to the shape of a reversed J, on the curved part of which is a dished plate, dished from front to back only, suitably cut to fit under the centre tube of ground frame. A collar to fit the bolt is welded in a suitable position on the reversed J-shaped plate and the hole in the collar continued through this plate. A hole is drilled in the top end of the arm of this plate and a short length of flexible wire rope is attached to this arm and another short length to the rear ground plate of the ground frame. These two lengths are joined to a ring, and their lengths are such, that when a pull is exerted on the ring, as by a rope, the arm is first pulled to a horizontal position, lifting the rear of the device and releasing the prong grip, the main pull to remove the device from a dangerous position being then taken through the ground

plate. The arm of this release arrangement drops into a guide when the device is not in use, and is then strapped in place.

The whole of the device folds to one bundle, except the loose handle, which can be kept conveniently in the bundle by the hose strap, which also holds the ground frame cross arm and branch holder arm, when the device is not in use.

The construction allows for all permanent joints being welded, standard bolts and nuts being used in hinges and other places where necessary; and finish in general being suitable for fire fighting purposes.

#### To USE THE DEVICE.

Large jet—one man—hose and branch laid ready. Set up device, locking elevating and lateral angles to suitable position, being sure prong is well bedded in ground. Attach hose and strap well in place, laying hose curving away to side at rear of device. Water on. Remove creases in hose and re-adjust angles if for set angle work. If for variable work, set handle to "high jet" or "low jet" position, free slide bars and lateral lock, operate as required, placing one foot on rear hose guide when very low angles are necessary. A rope must be tied to the release ring, if it is desirable to use this arrangement.

Dated the 2nd day of May, 1942.

F. W. BURT.

### COMPLETE SPECIFICATION

#### Improved Support for Fire Hose

I, FREDERICK WILLIAM BURT, of "St. Johns", Avon Road, Devizes, Wiltshire, and a British Subject, by birth, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

##### GENERAL INFORMATION.

The invention is an improved support for fire hose, and consists of a device, by means of which a substantial jet of water can be under the control of one man, this jet being hand controlled within an elevation angle range of approximately 0 degrees to approximately 80 degrees and within an accompanying maximum inclusive lateral range of approximately 40 degrees; or being set to any desired spot by the locking of the elevation and lateral angles to allow the water to reach such spot, in which case the device may be left unattended. The angle ranges can also be locked independently, and the jet moved laterally only, or to elevation only, as may be required. The device has an arrange-

ment at its rear, which, if pulled remotely, as by a rope, causes the ground grip to be released, when the whole can be drawn back. The device is of folding character, and when folded is reasonably compact.

The main principle employed is to use the water reaction pressure, plus the weight of the device itself and the charged hose thereon, to give a grip on the ground through a frame, by means of two feet and one prong; reducing the effort of the branchman only to that necessary to direct the jet, by flexing the hose to the elevation angle of such jet and twisting the hose to the lateral angle of such jet, within the limits of the device, by means of a "joy-stick" operating handle, when a movable jet is in use; and releasing him of all effort when a set jet is in use. I find that, using flexible hose of satisfactory size and type, such as 2½" rubber lined, the device functions according to the foregoing in an very easy manner, very large jets, to the maximum water passage capacity of the hose, being hand con-

trolled with little effort, using one hand only; and also that a reasonable pull on a rope connected to the recovery arrangement allows the ground grip to be released and the device to be easily drawn back by one man, assuming a further man is available to assist by pulling the hose in the line leading to the device. I also find that the device functions satisfactorily when locked to both elevation and lateral angles, and that drastic and sudden alterations in water supply and pressure have no effect on the device, under this condition, or when hand operated. I consider that the aforementioned qualities, together with its reasonable weight, should make it of value in general fire fighting, as it is suitable for carrying by hand or for transport on almost any appliance, suitable for use with practically all sizes of pumps, and at most classes of fires; and in addition it reduces the man effort required to control the live branch to a small percentage of that required when the branch is hand gripped only; and increases the safety of branchman by allowing a set unattended jet to be delivered from a place of danger to branchmen, and by avoiding the necessity of sending a man to such a position to recover branch supporting apparatus likely to be lost.

The device is mainly of tubular construction, and, briefly, consists of a T-shaped ground frame having two feet and a ground engaging prong: a tube of limited rotary movement on the front part of the centre tube of this J: on which rotary tube a branch holder arm is hinged, this arm having an extension rearwards to take a two position operating handle: a slide tray and U-shaped guide for the hose on the rear of the centre tube of the T-frame: a J-shaped arm with its curved ground friction plate, also on the rear of the centre tube of the T-frame, and forming the main part of the ground release arrangement: and arrangements to lock the rotary tube and branch holder arm in positions as may be required.

The design allows the maximum lateral angle to be reached only when the maximum elevation angle is being used, and as the latter reclines, the accompanying maximum lateral angle also declines, i.e. as water reaction pressure moves generally from a downwards effort to a rearwards effort, i.e. as ground grip lessens and possibility of skid increases, the risk of side skid, caused by water reaction due to a lateral angle, is almost non-existent, and the only skid against which preparation has to be made is a rearward skid, most likely to occur at low elevation angles. This method is also of advantage to the hose, the only flexing of which, for elevation purposes, takes place adjacent to the branch, that hose, approximately horizontal on the device and on the ground adjacent to the rear of the device, being the part twisted to obtain lateral angle, which twisting requires a negligible effort. The design also allows the water reaction to be sufficiently out of line (above) the branch holder arm hinge pin, so that such reaction has a strong lifting effect on the branch holder arm, which greatly assists the bending of the hose, and which, with fairly large nozzles, "balances" the resistance of the hose to bending, at elevation angles very useful for fire fighting, and in such cases the branchman's effort exerted for elevation control is negligible, and it has been shown that with various large size nozzles at various pressures, the branch will remain at various elevation angles without being locked in position or supported in any way, though other factors in fire fighting would not make it advisable to rely on this method of maintaining a branch to an elevation angle.

**THE ACCOMPANYING DRAWINGS.**

These show various views of the device, also enlargements of details either not shown on these views, or not shown clearly.

Fig. 1 is a perspective view of the device as it would appear set up ready for fitting of hose, though for drawing purposes, the prong is shown out of ground and the following are not shown—the pin holding the handle in position, and that holding the cross tube of T ground frame in position; the strap which maintains the slide bars and lateral lock handle in their "folded" position; the strap which maintains the ground release arm in its folded position; bolt heads or nuts.

Fig. 2 is a perspective view of the device, as it would appear folded for carrying or transport purposes. For drawing purposes the details not shown in Fig. 1, also the hose strap and steel cables, are not shown in this figure.

Fig. 3 is a right side elevation of the device with the hose and branch, also operating handle, in position. The main parts only are shown, the prong being in the ground.

Fig. 4 is a part left side elevation, with hose in position, and shows the position of the prong and the ground release arrangement, after a pull has been exerted rearwards on the ring. In the drawing it is assumed that pull is being maintained after the release from ground, and the difference in the tensions of the steel cables will be noted.

Fig. 5 is an enlarged part front elevation, with hose and branch in position, and shows the branch holder arm at a lateral angle. The rotary tube extension piece

(lateral stop), which engages between the hinge plates, will be noted.

Fig. 6 is an enlarged perspective view of the slide bars and shows, in the main, 6 their attachment to the rotary tube, and through the handle bolt, grip plate, and branch holder arm extension, to the branch holder arm itself.

Fig. 7 is an enlarged perspective view 10 of the handle pin, the socket into which the handle fits, and shows the safety arrangement to prevent pin leaving the socket, also holes used for chain attachments.

15 Fig. 8 is an enlarged perspective view of the front hinge, and shows the two hinge plates, the two bolts which hold these to the centre tube, the bolt which forms the hinge pin, the removable pin, 20 hole used for chain attachment, and also the rotary tube extension piece (lateral stop).

Fig. 9 is an enlarged perspective view 25 of the ground release J-shaped plate, its bearing, and cut away curved ground friction plate.

Fig. 10 is an enlarged perspective view 30 of the under part of the rear end of the rotary tube, and shows one of the branch holder arm hinge plates, the guides into 35 which the slide bars and lateral lock handle drop, the strap which maintains these latter in their "folded" positions, and the attachment which maintains this strap on the device.

Fig. 11 is an enlarged perspective view 40 of the bottom end of the branch holder arm.

Fig. 12 is an enlarged perspective view 45 of the rear end of the device, and shows the cut away ground plate and its prong, the U-shaped hose guide, the ground release arrangement arm guide, attachment bolt for this arrangement, and the strap 50 which maintains the said arm and steel cables in their "folded" positions.

#### FULL DESCRIPTION.

The device consists of four main parts, namely; a T-shaped ground frame; a 50 branch holder assembly; a two position control handle; and an arrangement to remotely release the ground prong grip, and allow recovery. Tube is used as much as possible in the construction and, unless 55 otherwise stated, all permanent joints are of welded type.

The T-shaped ground frame is of weldable steel tube of suitable size and strength. The cross tube A of this T is in 60 one length, hinged to the centre tube C, so that, when the device is folded, approximately one half of it is parallel to the centre tube C, as seen from above, and on the right side of the latter C, the other 65 part then extending in line with the first

part beyond the front end of centre tube C. The hinge connecting these tubes comprises two pieces of flat steel, pear shaped B, securely bolted to the front of the centre tube C by two bolts B<sup>1</sup>, and which have 70 a further bolt B<sup>2</sup>, which forms the hinge pin, passing through them and also through the cross tube A, and in addition a removable pin B<sup>3</sup>, to prevent hinge movement when the device is in use. 75

These pear shaped plates B are bolted one above and one below the tubes, their broadest parts being at the front; their rear edges are cut straight, to form a satisfactory stop for the front end of the 80 branch holder assembly rotary tube E. The two bolts B<sup>1</sup>, through them, holding them to the centre tube C, pass through holes in the rear part of the plates B, such holes being on a centre line of each plate. 85 The hinge pin B<sup>2</sup> and removable pin B<sup>3</sup> holes are on a line square to the centre line mentioned, such line crossing the plates B at their greatest width, the hinge pin B<sup>2</sup> holes being on the right side, and the removable pin B<sup>3</sup> holes on the left side.

The removable pin B<sup>3</sup> is of round steel, blunt pointed at its lower end, and is formed into a ring at its upper end. The end link of a piece of suitable chain is 90 attached to this ring, the other end link being attached to the upper hinge plate, through a hole near the left edge of the said plate. The cross tube A, each side of the hinge, is bent downwards, and further 95 bends, near the ends of this tube A, make the parts adjacent to these ends to be in line with one another. Below these parts adjacent to the ends of the said cross tube, and extending beyond the ends, are 100

circular flat steel plates A<sup>1</sup>, which have circular wood or rubber feet A<sup>2</sup>, of suitable thickness. The bending of the cross tube A is to give good ground clearance 105 only, and does not exceed that necessary to satisfy this requirement. On the centre tube C, at a point about two fifths of its length, from its front end, is a fixed collar C<sup>1</sup>, and immediately adjacent, but behind this collar C<sup>1</sup>, the tube is bent sufficient 110 to allow the front two-fifths to be parallel with the ground, the rear three fifths then sloping down to the rear ground plate C<sup>2</sup>, below which is a permanent prong C<sup>3</sup>.

This plate C<sup>2</sup> is so welded that it extends 115 beyond the rear end of the centre tube C, and a hole is drilled through this part, for the purpose of attachment of a steel cable T<sup>1</sup>, forming part of the ground release-recovery arrangement. The front part of 120 this plate C<sup>2</sup> is cut away in two places, to allow the aforesaid arrangement to be as near to the rear of the device as possible. Above this plate C<sup>2</sup>, formed of strip steel 125 bent on the flat, and having its rear edge 130

level with the rear end of centre tube C, is a U-shaped hose guide D, the top of the right arm of which is cut to form a number of V-shaped teeth, to allow a boot grip 5 not likely to slip. Extending from the left side, level with the rear edge of this U-shaped guide D, is a slotted guide plate U for the ground release-recovery arrangement arm S, this plate U being 10 shaped to fit the side of the U-shaped guide D, the outside left side curve of centre tube C, and the top left side of ground plate C<sup>2</sup>. Immediately in front of this slotted plate U, riveted under the ground 15 plate and extending outwards from the left edge of the latter is the buckle end of a strap U<sup>1</sup>, of suitable strength and material; the other portion of this strap U<sup>1</sup> being riveted as low as possible on the 20 outside of the U-shaped hose guide D, and also immediately in front of the slotted arm guide U mentioned, in such a manner, that it can be held extending upwards, beyond the top of the left arm of the U 25 shaped guide D, and be a fit to the outside surface of this arm. This strap U<sup>1</sup> maintains the ground release-recovery arrangement arm S and the steel cables T and T<sup>1</sup>, which are placed alongside this 30 arm S, in their out of use positions. In front of these rear arrangements and extending from the left side of centre tube, and in the form of a round headed bolt, is an extension R, on which the ground 35 release-recovery arrangement is fitted, and maintained by nut R<sup>1</sup>, and on which it has a limited rotary movement. On the top of the sloping portion of centre tube C, between the U-shaped guide D, and the 40 collar C<sup>1</sup>, both previously mentioned, is a fairly long tray D<sup>1</sup>, dished in its width only and open ended, in which the hose slides during varying elevation angles, and twists during varying lateral angles 45 of the jet. This tray D<sup>1</sup> serves two main purposes, namely; that together with the U-shaped guide D, it bears the weight of the charged hose, which at low angles assists to maintain prong grip; and also 50 that its smooth surface forms a very satisfactory slide for the hose, especially during alterations in the upper elevation angle range, when, due to forced hose curvature, there is appreciable down pressure, which, if the hose were on the 55 ground, might cause abrasion or other damage to the hose.

The branch holder assembly consists of a tube E, of limited rotary movement, 60 which is a working fit on and around the centre tube C of ground frame, and the length of which is equal to the space between the collar C<sup>1</sup> and hinge plates B, both previously mentioned; a branch 65 holder arm H<sup>2</sup> hinged to the rear end of this tube E, also arrangements to control movements of this tube E and the holder arm H<sup>2</sup>, to lock each where required; and a socket O into which the control handle O<sup>1</sup> can fit. An extension E<sup>1</sup>, on the right 70 side of the rotary tube E, engages between the hinge plates B of ground frame, limiting rotary, and consequently lateral, movement. An extension, in the form of a circular nut F, is on the right side of 75 the rotary tube E, and is about mid-way along this tube E. A handled locking bolt F<sup>1</sup>, to lock the rotary tube E as may be required, is screwed into this nut F, and so fitted, that the tube E is locked 80 when the handle of this bolt F<sup>1</sup> is in a vertical position. Extending from the left side of this tube E, and near the front end of same, of strip steel, bent on the flat to the shape of an L, is a support N for the 85 lower end of slide bars N<sup>1</sup>, the lower arm of this L-shaped piece being horizontal, the other vertical, this latter arm having a suitable tapped bolt hole near its upper end. Level with the rear end of tube E, 90 one on each side, extending upwards, are two hinge plates H, approximately square in shape, whose surfaces face one another, and which have a suitable hole each for the hinge pin. Extending sideways from 95 the front edge of each is a slotted guide plate, that F<sup>2</sup> on the right side being for the handle of the locking bolt F<sup>1</sup>, previously mentioned, to fall in when out of use, and that N<sup>4</sup> on the left side being for 100 the rear end of slide bars N<sup>1</sup> to engage in when the device is being used with a horizontal jet, or when it is folded. Below the rear of tube E is a short length of narrow strip steel G, the ends of which are bent 105 on the flat upwards, and attached to the tube E. Passing through the rectangular eye G thus formed, is a strap G<sup>1</sup>, which is formed into a loop on the left side, and brought back below the rectangular eye G, 110 the two ends being on the right side, the strap G<sup>1</sup> being maintained in this position by two rivets, one each side of the eye G, through the two thicknesses of material, of which the strap G<sup>1</sup> is made, and so rivetted 115 that considerable side movement is allowed. When the device is folded, the loop of this strap G<sup>1</sup> is passed over the rear end of slide bars N<sup>1</sup>, and the ends connected around the locking bolt handle F<sup>1</sup>, 120 thus maintaining these parts in their folded positions. The branch holder arm H<sup>2</sup> is of tube, and has on each side, at its lower end, a small rectangular plate H<sup>1</sup>, which plates are a satisfactory working fit 125 between the hinge plates previously mentioned, and have holes through them and the tube H<sup>2</sup> between, to correspond with the holes in the said hinge plates H, through all of which holes a bolt is passed, 130

to form a hinge pin. The following description of the arm  $H^2$ , and its attachments, assumes the arm  $H^2$  to be at 45 degrees elevation angle, but at no lateral angle. A suitable space along the arm, from the hinge, extending from the left side, is a rectangular piece of steel  $K$ , fairly thick, so attached that its longest edge is along the side of arm  $H^2$ . Attached 5 to the left edge of this piece  $K$  is a length of flat steel  $K^1$ , of width equal to the length of this rectangular piece, and of similar thickness, so attached, that, as seen from the left, one flat side is seen, 10 and the length is square to the arm tube. The attachment to the rectangular piece  $K$  is at a point about  $1/5$ th along the length of steel  $K^1$  referred to, as measured from its lower end. The upper end of this 15 length  $K^1$  is so bent on the flat, that it turns in behind the arm tube  $H^2$ , and on this end is a socket  $O$  to take the operating handle  $O^1$ , this socket  $O$  being in line with the arm tube  $H^2$ , as seen from the rear, 20 and at about 100 degrees to the front of the arm, as seen from the side. That part of this length  $K^1$ , below the rectangular piece, has a tapped hole through it for slide bar attachment. Above this arrangement, and on the arm tube  $H^2$ , is a curved 25 strap rivet plate  $L$ , of curvature to take standard hose, and length about one third the circumference of a circle. A hose strap  $L^1$ , of suitable material, and long 30 enough to hold the cross tube  $A$  of ground frame in its folded position, is attached to this plate  $L$ . Above this plate  $L$  the arm tube  $H^2$  is bent forwards to allow the increased diameter of the coupling, and then 35 back to allow the smaller diameter of the branch. At about the point of maximum bend, a piece of strip steel, bent on the flat to form two equal arms  $M$  at right angles, is so attached that the arm tube 40  $H^2$  is in the corner formed by these two arms  $M$ , and so that these arms  $M$  extend upwards at an equal angle each side, as seen from the rear, and square to the straight portion of arm tube  $H^2$ , as seen 45 from the side. On the ends of these arms  $M$ , and in line with one another, are two U-shaped pieces  $M^1$ , made of strip steel bent on the flat, so attached that their open ends face the front of arm tube  $H^2$ . On 50 the front end of arm tube  $H^2$  is a support  $M^2$  of strip steel, bent on the flat to suitable curvature for average branches, and length about one third the circumference of a circle. The slide bars  $N^1$  consist of 55 two pieces of tube or rod in parallel, closed at both ends, and having a small plate, to one edge of which the lower ends of the tubes or rods are attached. A hole, through this plate, allows these bars  $N^1$  to 60 be hinged to the L-shaped extension  $N$ , by 65

a bolt. A handled locking bolt  $N^2$ , together with a grip plate  $N^3$ , which is approximately square in shape, and which has its opposite edges slightly turned over the slide bars  $N^1$ , to prevent spread, connects the slide bars  $N^1$  to the length of flat steel  $K^1$ , and enables the branch arm  $H^2$  to be locked on, or to slide on, these bars  $N^1$ . 70

The operating handle  $O^1$  is of tube, and is bent a suitable number of degrees out of true near the end which fits into the socket  $O$  mentioned, so that, suitable handle positions for "high angle range" or "low angle range" can be obtained, 80 and this handle has an insulated grip  $O^2$ , and is held in either of its positions by a pin  $P$ . The pin  $P$  is of round steel blunt pointed at one end, the other end having a circular head  $P^1$  of thin sheet steel, 85 which head has an arm cut from sheet in one with the head  $P^1$ , the outer edge of the arm  $P^2$  forming a tangent to the circular head, the inner edge being parallel to the outer. The round pin  $P$  is attached to the 90 centre of the circular piece  $P^1$ , so that, assuming the pin were being placed in from the left side, with the arm upright, the tangential edge of arm  $P^2$  would be in front. A square notch is cut in the head 95  $P^1$  where the tangential edge meets the circle, and a hole is drilled in the end of arm  $P^2$ , for chain attachment. Below the pin hole drilled crossways through the socket  $O$ , and on the left side, is a small 100 rectangular piece of steel  $P^3$ , so notched at its upper end, that it will allow the pin to be completely inserted, when its arm is, as a rule, somewhat forward of vertical, by the notch in the head passing 105 over the upper end of this rectangular piece of steel  $P^3$ . The arm can then be turned rearwards and downwards, the circular head  $P^3$  turning in, and being maintained in, the notch cut in the small 110 piece of steel  $P^3$ , which also has a hole through it for pin arm attachment by a length of suitable chain. 110

The ground release-recovery arrangement fits on the bolt  $R$ , previously mentioned, and consists of a flat piece of steel plate  $S$ , of suitable thickness, cut to the shape of a broad reversed  $J$ , as seen from the left side, which has a circular extension  $S^1$ , approximately where the arm 120 broadens into the lower part of the plates  $S$ , and inside the plate, to form a bearing on the said bolt  $R$ , and which also has a hole in the end of its arm for steel cable connection, and has secured around the 125 outside of its lower curve a piece of steel  $S^2$ , of similar curvature, so welded that it passes under the centre tube  $C$ , and, as seen from above, extends equally both sides of same; this curved piece  $S^2$  having 130

a U-shaped cut in its rear part, to allow the arm of the arrangement to rise approximately vertical, when this U would fit up each side of the centre tube C. The 5 flexible cable T, from the arm, is connected to a ring T<sup>2</sup>, and a second piece T<sup>1</sup> from the ring to the rear ground plate C<sup>2</sup>, the ends of these cables being fitted with thimbles; and correctly spliced and 10 bound; and the lengths of these are such, that, assuming a pull rearwards to be exerted on the ring T<sup>2</sup>, as by a rope previously attached, and pulled remote from the device; the ground release arrangement 15 arm is first pulled to a horizontal position, thus releasing ground grip, the main pull to recover device then being taken through the ground plate C<sup>2</sup>; that is, if this pull is maintained after the arm 20 has reached the horizontal position, the cable T to the arm is then very slightly slack, the cable T<sup>1</sup> to the ground plate C<sup>2</sup> taut, and their lengths are such as to allow this.

25 The device is finished to suit fire fighting requirements.

#### To USE THE DEVICE.

1. Upon arriving at the scene of fire, all straps on the device are released, and the 30 device set up as convenient, the rear prong being very firmly bedded in ground, which bedding is of the greatest importance, especially in low angle work.

2. Hose and branch are then fitted, the 35 hose being laid curving away behind the device, and the hose strap being tightened on charged hose.

3. Angles are then adjusted, if for set angle work; or if for variable hand control, the handle is set to "high angle" or "low angle" position, as may appear to be required.

4. During hand operation in the "low angle" range, a foot should be placed 45 heavily on top of the arms of the U hose guide.

5. If through faulty spiking, soft surface, or other cause, sliding movement should occur, it should be checked by raising jet.

6. If it appears that it might be necessary to use the recovery arrangement, a rope should be tied to the ring provided, cables and ring being placed on the left 55 side, to prevent them becoming caught in any part of the device.

#### MAINTENANCE AND STORAGE.

All working parts of the device should be oiled occasionally and straps treated 60 with preservative. The device folds to one bundle, except the loose handle, which can be kept in place by the hose strap; and can be stored, or easily carried on any appliance when so folded.

65 Having now particularly described and

ascertained the nature of my said invention, and in what manner the same is to be performed, I declare that what I claim is:—

1. A support for fire hose, comprising 70 tubular base members, so attached to form a T, the cross member of which is bent downwards each side, and has two ground engaging discs; the rear part of the centre member of which is also bent downwards, 75 and is provided with a ground engaging plate and prong, a tray and a U-shaped guide member for the hose, the U-shaped member being cut to a number of V's on one arm, to engage the branchman's boot; 80 and the front part of centre member of which has around it a tubular member of limited rotary movement, provided with an extension to engage in the hinge joining the said T tubular members, and with 85 a handled locking arrangement, and with a member on its front part, adapted for hinge connection of slide members, and with a tubular arm member hinged to its rear part; which tubular arm 90 member has an extension on one side, adapted to engage on the said slide members by means of locking bolt and grip plate members, and to take, in a tubular socket member, at its rear, a 95 detachable and adjustable tubular operating handle, said handle being bent near to its joining point to this extension; and which tubular arm member also has a strap member for the hose, a two armed 100 member, provided with U-shaped pieces, to engage the lugs of the coupling, and a curved member to support the branch.

2. A support for fire hose, as claimed in claim 1, in which the required relative 105 position of the said operating handle and its socket is maintained by a removable pin, comprising a blunt pointed round member, having a notched flat circular head with tangential handle, and adapted 110 to engage a notched member secured to the latter.

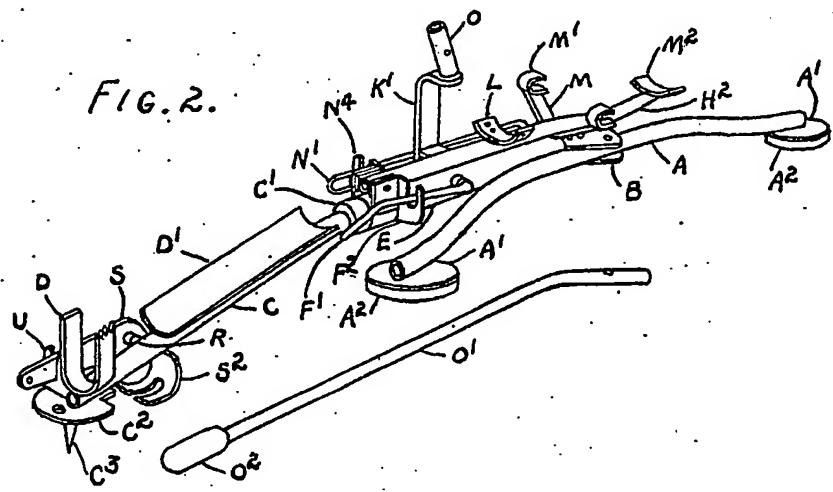
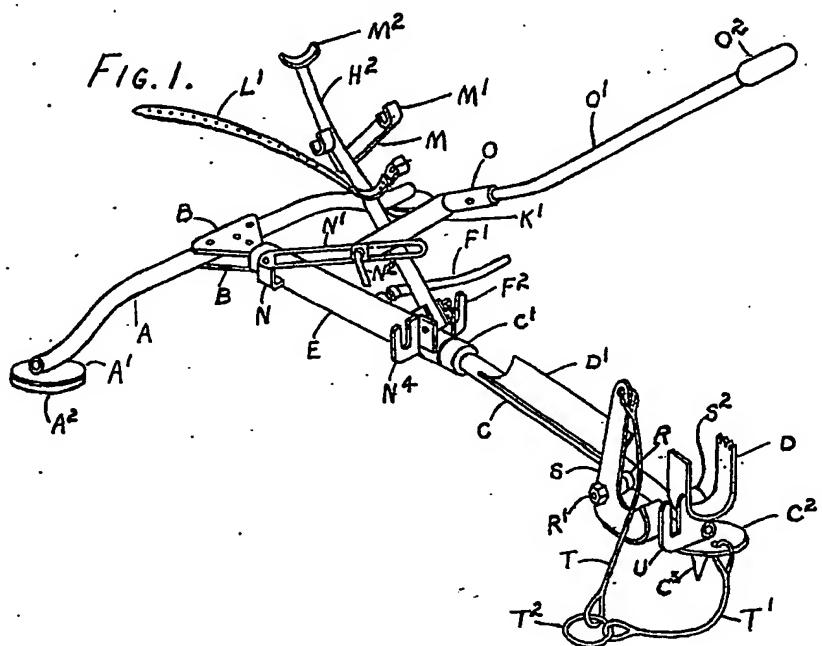
3. Combined with the support for fire hose, as claimed in claims 1 and 2; the addition of a ground release-recovery 115 arrangement, comprising a flat member, shaped as a reversed J; to which is secured a round extension, which engages on a bolt secured to the centre tubular member; and a curved sheet member to 120 engage the ground, which sheet member has a U-shaped opening, to engage the centre tubular member; and to the arm of which J-shaped member, the end of a flexible member is attached, which, with 125 a further flexible member, attached to the plate at the rear of the centre tubular member, is adapted for pulling, as by a rope.

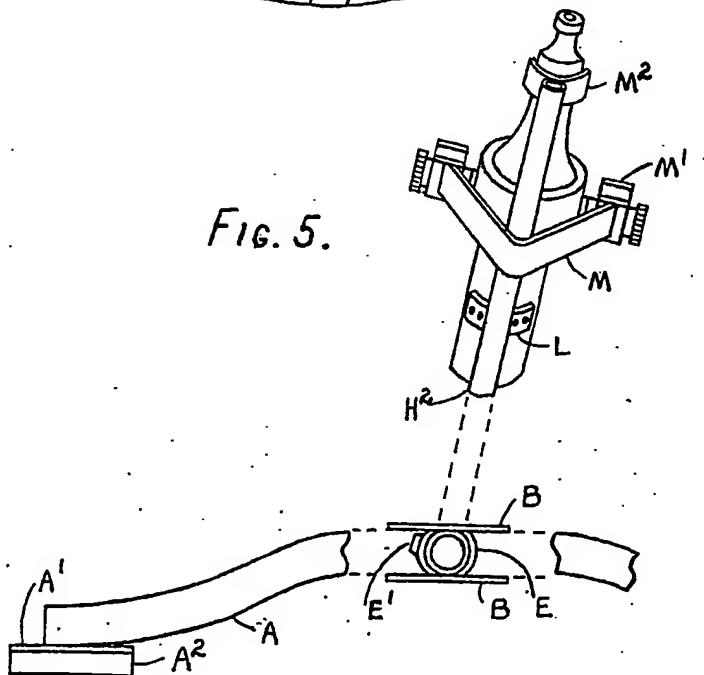
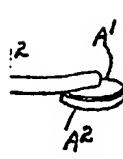
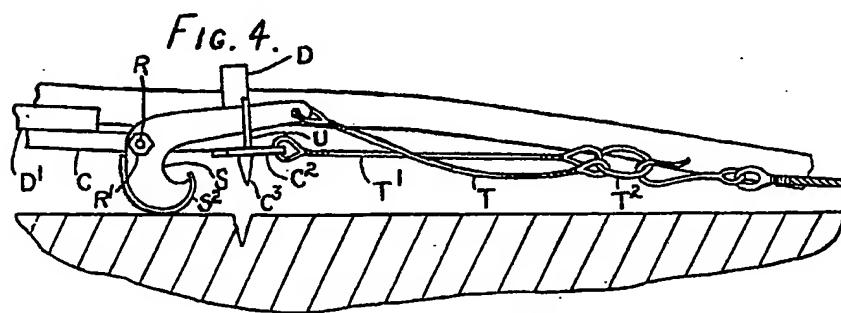
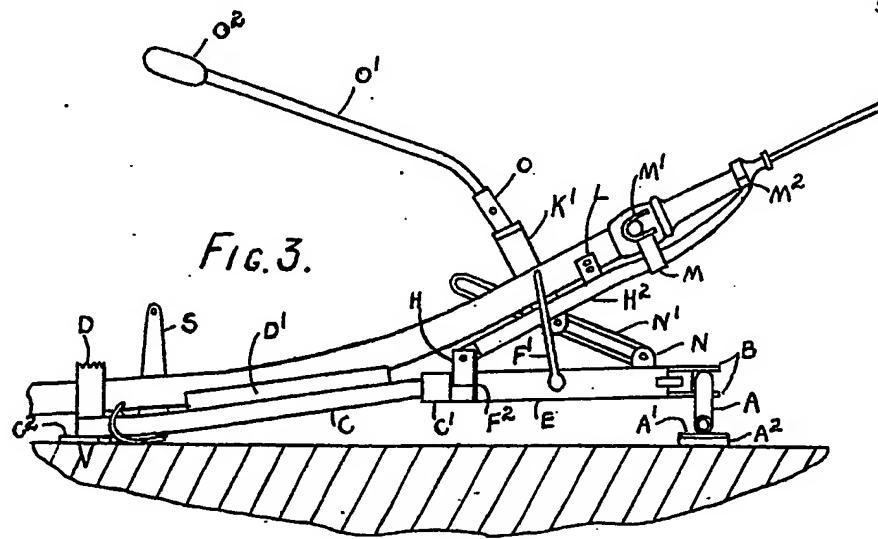
Dated the 22nd day of October, 1942.  
F. W. BURT.

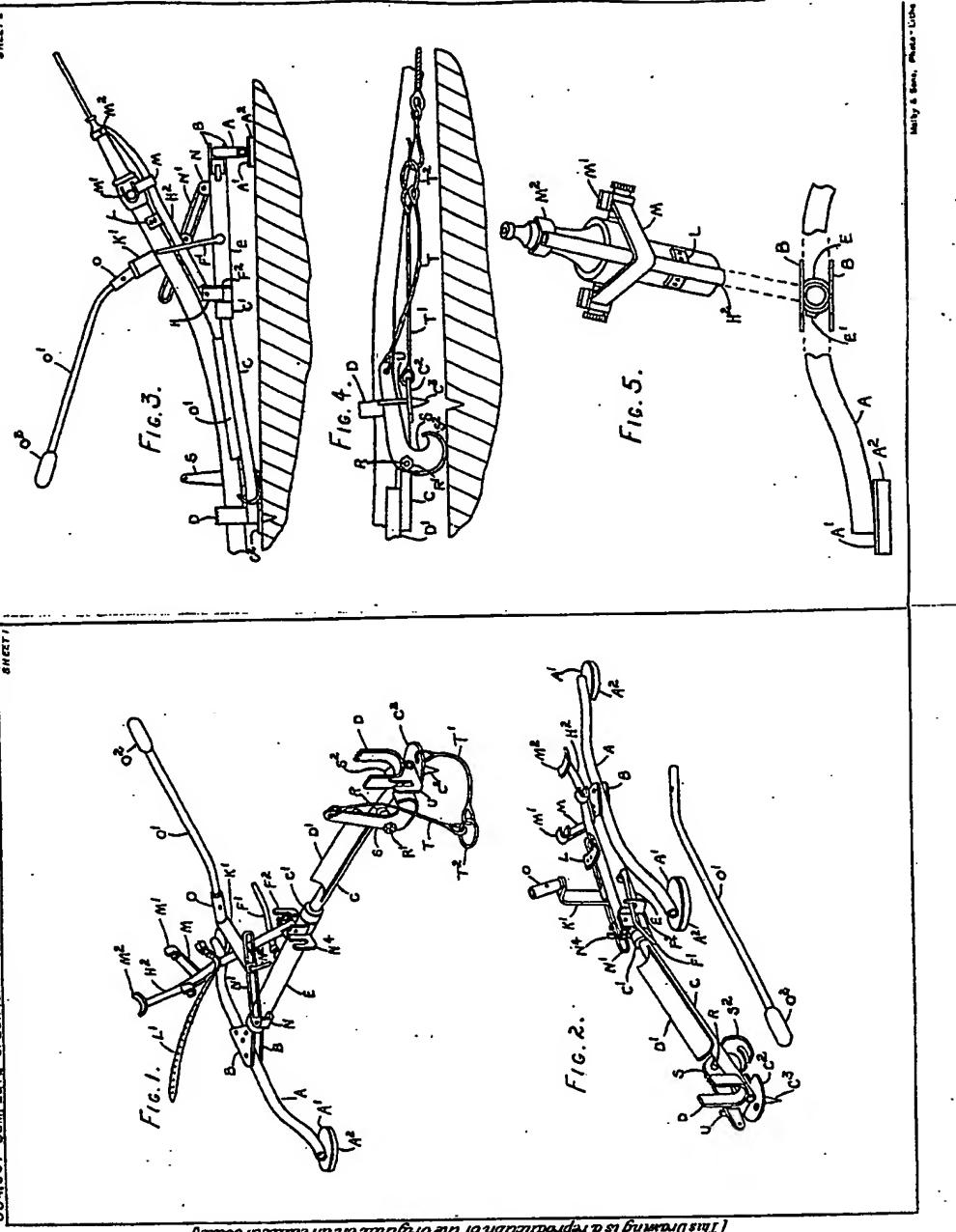
554,907 COMPLETE SPECIFICATION

SHEET 1

[This Drawing is a reproduction of the Original on a reduced scale.]







[This Drawing is a reproduction of the Original on a reduced scale.]

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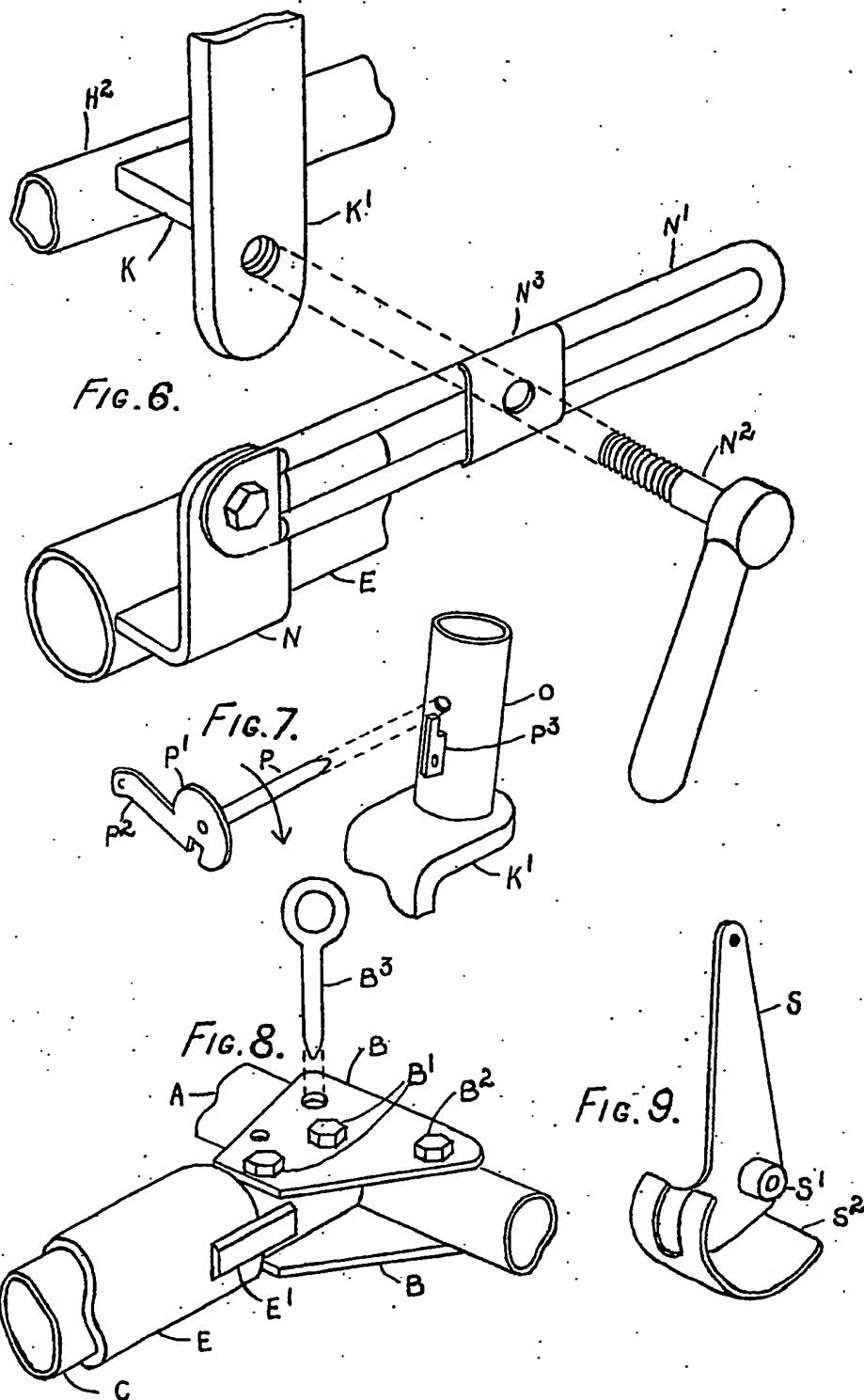


FIG. 10.

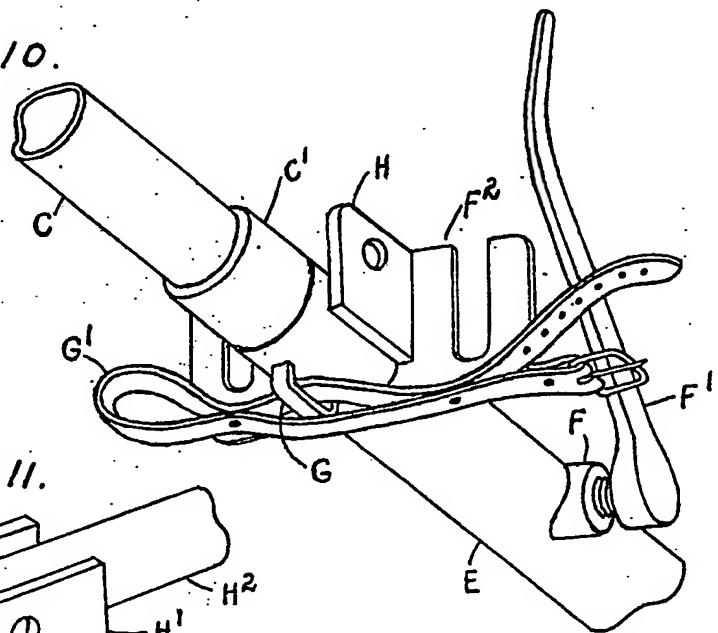


FIG. 11.

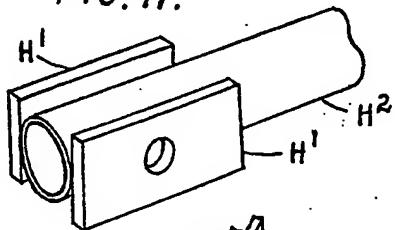
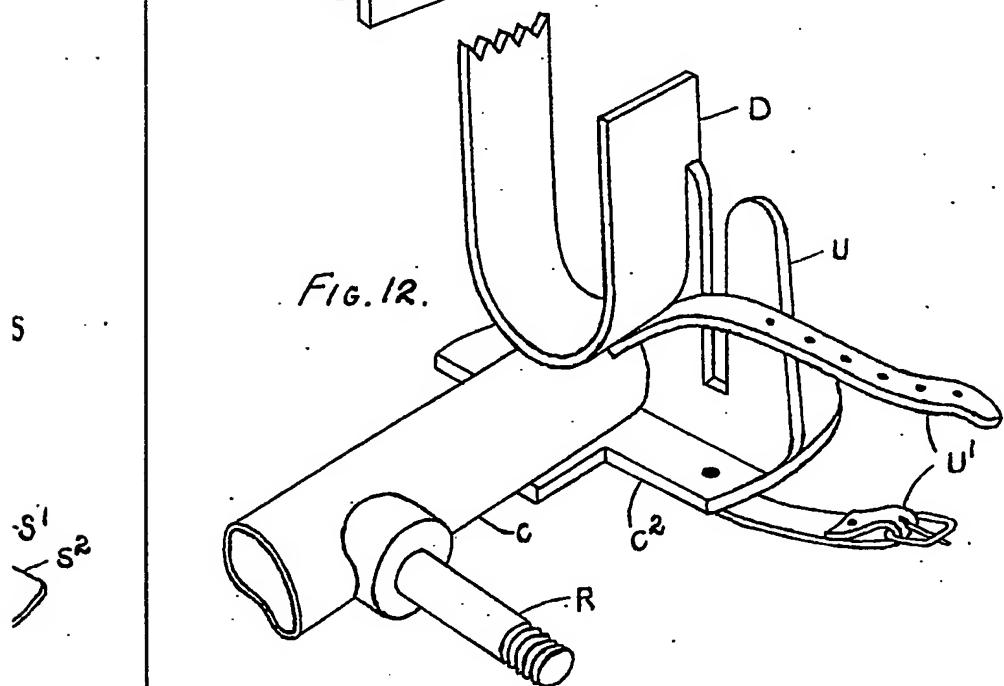
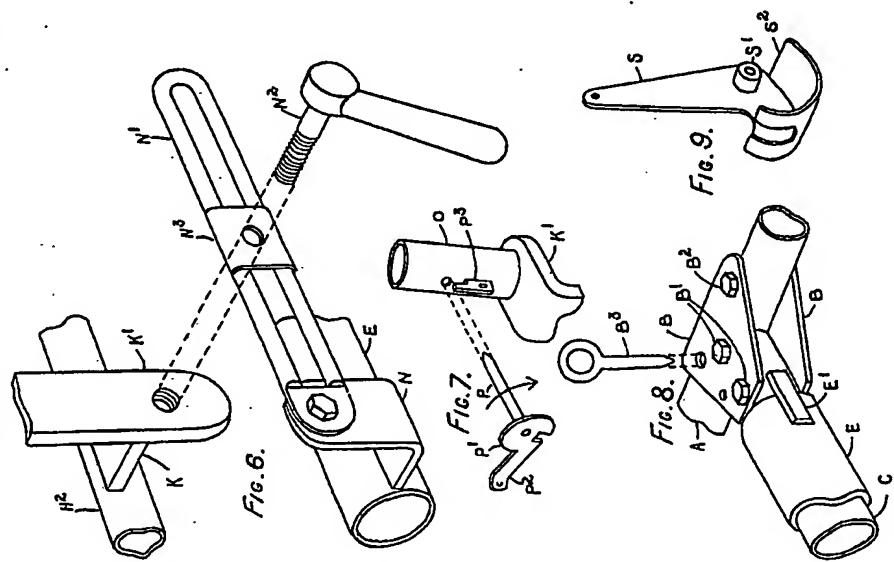


FIG. 12.





(This drawing is a reproduction of the original on a reduced scale.)

